Grade 7
Mathematics

Constructed Response
Scoring Guides
Fall 1995

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GRADE 7
MEAP MATHEMATICS SCORING GUIDES

These scoring rubrics are provided to help evaluate and score the constructed response items on the 1995 MEAP Mathematics Test, Grade 7. For each item a solution is given as well as actual student responses with annotations explaining the score point given.

General Recommendations and Guidelines

Studying the sample student responses and annotations will help you understand the essence of what is expected at each score point for a particular question. Keep in mind that these sample student responses represent only a few of the many possible responses for a given score point.

To ensure the accuracy and consistency of your scoring, keep the following in mind:

1. Continually review the scoring rubric, the annotated score guide and student samples, especially when you are in doubt regarding a particular student response.

2. Do not judge one student's paper by another. Instead, apply the same objective standards to each paper by evaluating the response in terms of the scoring rubric and guides.

3. It is advisable to devise a method to conceal student names when scoring the papers.

4. Review papers you scored earlier in the process to make sure you are using the same standards.

5. Do not think that length is synonymous with quality. A long response may be redundant, wordy or vague.

6. Do not allow the issues of handwriting, spelling, or grammar to affect your ability to score.

GRADE 7 - QUESTION #1
SCORING RUBRIC

3 POINTS Correct line plot; correct explanation; correct median, mode and range
Parts **A**, **B** and **C** correct

* * * *

2 POINTS Parts **A** and **C** correct; part **B** attempted but incorrect (Parts **A** and **C** are being scored as one entity because the computation in part **C** is dependent on the line plot in part **A**. Part **B** requires an explanation and stands alone for scoring. Also, "attempted but incorrect" means that a sincere attempt with a logical/correct approach to an explanation must be made.)
OR Parts **A/C** attempted but incorrect; part **B** correct
OR Parts **A** and **C** correct; part **B** omitted
OR Parts **A/C** omitted; part **B** correct

* * * *

1 POINT Parts **A/C** incorrect; part **B** incorrect

* * * *

0 POINTS Parts **A/C** incorrect; part **B** omitted
OR Parts **A/C** omitted; part **B** incorrect

Directions: Solve the problem below. Be sure to answer the three questions on the following page. There may be more than one way to answer correctly. Show as much of your work as possible.

1 Jane's father bought her 30 ride tickets at the carnival. Some rides cost 4 tickets and some cost 5 tickets. Complete the table. Use it to determine how many different combinations of rides there are and which combination(s) allow the most rides.

EXEMPLAR: Grade 7, #2

TICKET TABLE

Number of 4 Ticket Rides	Number of 5 Ticket Rides	Total Number of Tickets
7	0	28
6	1	29
5	2	30
4	3	31
3	4	32
2	5	33
1	6	34
0	7	35
6	0	24
5	1	25
4	2	26
3	3	27
2	4	28
1	5	29
0	6	30
0	5	25

EXEMPLAR: GRADE 7, #2

A. How may combinations are there?

EXEMPLAR: *There are 10+ possible combinations*

B. How many use all 30 tickets?

EXEMPLAR: *There are 2 combinations that use all 30 tickets*

C. What is the maximum number of rides Jane can go on with her 30 tickets?

EXEMPLAR: *The maximum number of rides that Jane can take is 7.*

Directions: Solve the problem below. Be sure to answer the three questions on the following page. There may be more than one way to answer correctly. Show as much of your work as possible.

1 Jane's father bought her 30 ride tickets at the carnival. Some rides cost 4 tickets and some cost 5 tickets. Complete the table. Use it to determine how many different combinations of rides there are and which combination(s) allow the most rides.

TICKET TABLE

Number of 4 ticket rides	Number of 5 ticket rides	Total number of tickets
7	0	28
6	1	29
2	5	27
5	1	25
1	4	24
0	6	30
PART 2- 5	2	30
3	3	27
2	4	28
6	0	24

1 POINT
TABLE COMPLETED INCORRECTLY AND PART A INCORRECT; PART B CORRECT AND PART C INCORRECT

A How many combinations are there?

10

B How many use all 30 tickets?

2

C What is the maximum number of rides Jane can go on with her 30 tickets?

6

Directions: Solve the problem below. Be sure to answer the three questions on the following page. There may be more than one way to answer correctly. Show as much of your work as possible.

1 Jane's father bought her 30 ride tickets at the carnival. Some rides cost 4 tickets and some cost 5 tickets. Complete the table. Use it to determine how many different combinations of rides there are and which combination(s) allow the most rides.

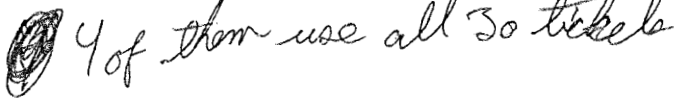
TICKET TABLE

Number of 4 ticket rides	Number of 5 ticket rides	Total number of tickets
7	0	28
6	1	29
5	2	30
4	3	31
3	4	32
2	5	33
1	6	34
0	7	35

1 POINT
TABLE COMPLETED INCORRECTLY AND PART A INCORRECT; PART B INCORRECT AND PART C CORRECT

A How many combinations are there?

B How many use all 30 tickets?



C What is the maximum number of rides Jane can go on with her 30 tickets?

Directions: Solve the problem below. Be sure to answer the three questions on the following page. There may be more than one way to answer correctly. Show as much of your work as possible.

1 Jane's father bought her 30 ride tickets at the carnival. Some rides cost 4 tickets and some cost 5 tickets. Complete the table. Use it to determine how many different combinations of rides there are and which combination(s) allow the most rides.

TICKET TABLE

Number of 4 ticket rides	Number of 5 ticket rides	Total number of tickets
7	0	28
6	1	29
0	6	30
5	2	30
4	2	26
3	5	28
1	5	29
~~5~~	~~3~~	
7	0	28

2

2 POINTS
TABLE COMPLETED INCORRECTLY AND PART A INCORRECT; PARTS B AND C CORRECT

A How many combinations are there?

eight (8)

B How many use all 30 tickets?

two (2)

C What is the maximum number of rides Jane can go on with her 30 tickets?

seven (7)

Directions: Solve the problem below. Be sure to answer the three questions on the following page. There may be more than one way to answer correctly. Show as much of your work as possible.

1 Jane's father bought her 30 ride tickets at the carnival. Some rides cost 4 tickets and some cost 5 tickets. Complete the table. Use it to determine how many different combinations of rides there are and which combination(s) allow the most rides.

TICKET TABLE

Number of 4 ticket rides	Number of 5 ticket rides	Total number of tickets
7	0	28
6	1	29
1	5	29
4	2	26
0	6	30
0	7	35
8	0	32
5	2	30
4	3	31
2	4	28
3	4	32
2	5	33
7	1	33
1	6	34

2 POINTS
TABLE COMPLETED CORRECTLY AND PART A CORRECT; PART B CORRECT AND PART C INCORRECT

A How many combinations are there? there are eleven combinations

B How many use all 30 tickets? there only two that use all thirty tickets

C What is the maximum number of rides Jane can go on with her 30 tickets?

there thirteen rides she can go

Directions: Solve the problem below. Be sure to answer the three questions on the following page. There may be more than one way to answer correctly. Show as much of your work as possible.

1 Jane's father bought her 30 ride tickets at the carnival. Some rides cost 4 tickets and some cost 5 tickets. Complete the table. Use it to determine how many different combinations of rides there are and which combination(s) allow the most rides.

TICKET TABLE

Number of 4 ticket rides	Number of 5 ticket rides	Total number of tickets
7	0	28
6	1	29
5	2	30
4	3	31
3	4	32
2	5	33
1	6	34
0	7	35
0	5	25
8	0	32
0		30

3 POINTS
TABLE COMPLETED CORRECTLY; PARTS A, B AND C CORRECT

A How many combinations are there?

There are ~~ten~~ eleven combinations their.

B How many use all 30 tickets?

I found 2 numbers use of 30 tickets.

C What is the maximum number of rides Jane can go on with her 30 tickets?

Jane can go on 7 rides with her 30 tickets.

GRADE 7 - QUESTION #2
SCORING RUBRIC

3 POINTS Table completed correctly; parts **A, B**, and **C** correct

* * * *

2 POINTS Table completed correctly and part **A** correct; parts **B/C** incorrect (Since parts **B** and **C** can be answered correctly without completing the entire table, they are scored separately from the table and part **A**.)

OR Table completed incorrectly and part **A** incorrect; parts **B** and **C** correct

OR Table completed correctly and part **A** correct; part **B/C** omitted

OR Table/part **A** omitted; part **B** and **C** correct

* * * *

1 POINT Table completed incorrectly/part **A** incorrect; part **B/C** incorrect

* * * *

0 POINT Table completed incorrectly/part **A** incorrect; part **B/C** omitted

OR Table/part **A** omitted; part **B/C** correct

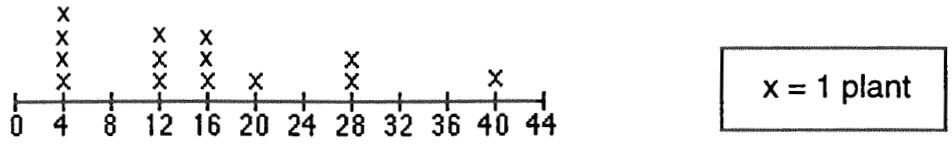
Directions: Solve the problem below. There may be more than one way to answer correctly. Show as much of your work as possible.

2 The sixth grade students were given different types of bean seeds to plant as a science experiment. The table shows the height of the beanstalks after two weeks.

Name	Height in cm
Jessica	28
Dwain	40
Melissa	28
Karen	16
Rick	20
John	12
Kurt	4
Linda	36
Cliff	4
Yassir	4
Cassandra	16
Nicole	4
Mike	32
Irum	16
Alan	12

Exemplar:

A Use the table to complete the line plot.



HEIGHT OF BEAN STALKS IN CENTIMETERS

B Explain why it is easier to use the line plot to find the median, mode, and range, than it is to use the table.

Exemplar: *The numbers are in numerical order so all you have to do is count to find the middle number. The mode is the number that appears most often. Therefore, the number with the most x's is the mode. The range is the highest value marked minus the lowest value marked.*

C Using the line plot, find the median, mode, and range.

Exemplar: *median = 16*
mode = 4
range = 36, or 4 to 40, or 40 - 4

Directions: Solve the problem below. There may be more than one way to answer correctly. Show as much of your work as possible.

2 The sixth grade students were given different types of bean seeds to plant as a science experiment. The table shows the height of the beanstalks after two weeks.

Name	Height in cm
Jessica	28
Dwain	40
Melissa	28
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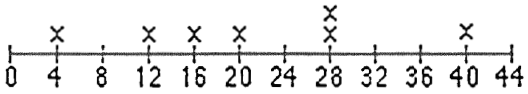
John	12
Kurt	4
Linda	36
Cliff	4
Yassir	4
Cassandra	16
Nicole	4
Mike	32
Irum	16
Alan	12

A Use the table to complete the line plot.



x = 1 student

Height of Beanstalks in Centimeters

B Explain why it is easier to use the line plot to find the median, mode, and range, than it is to use the table.

mode=4
median=6
range=36

C Using the line plot, find the median, mode, and range.

0 POINTS

LINE PLOT OMITTED; EXPLANATION OMITTED; INCORRECT MEDIAN, MODE AND RANGE PART A OMITTED AND PART C INCORRECT; PART B OMITTED

Directions: Solve the problem below. There may be more than one way to answer correctly. Show as much of your work as possible.

2 The sixth grade students were given different types of bean seeds to plant as a science experiment. The table shows the height of the beanstalks after two weeks.

Name	Height in cm
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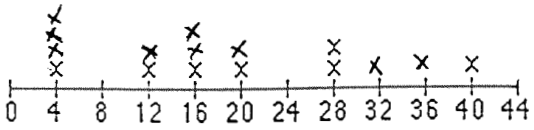
John	12
Kurt	4
Linda	36
Cliff	4
Yassir	4
Cassandra	16
Nicole	4
Mike	32
Irum	16
Alan	12

A Use the table to complete the line plot.



Height of Beanstalks in Centimeters

x = 1 student

B Explain why it is easier to use the line plot to find the median, mode, and range, than it is to use the table. It is easier to use the line plot because the numbers are in order and it shows how many of each number there is in the table.

C Using the line plot, find the median, mode, and range. The median is 24, the mode is 4, and the range is 40.

1 POINT
INCORRECT LINE PLOT; CORRECT EXPLANATION; INCORRECT MEDIAN, MODE AND RANGE
PART A INCORRECT AND PART C CORRECT; PART B INCORRECT

Directions: Solve the problem below. There may be more than one way to answer correctly. Show as much of your work as possible.

2 The sixth grade students were given different types of bean seeds to plant as a science experiment. The table shows the height of the beanstalks after two weeks.

Name	Height in cm
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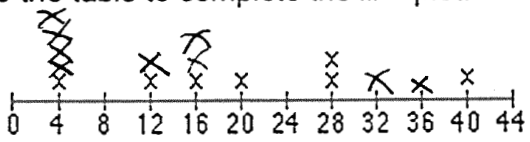
John	12
Kurt	4
Linda	36
Cliff	4
Yassir	4
Cassandra	16
Nicole	4
Mike	32
Irum	16
Alan	12

A Use the table to complete the line plot.



Height of Beanstalks in Centimeters

x = 1 student

B Explain why it is easier to use the line plot to find the median, mode, and range, than it is to use the table. It would be easier to use the line plot because they are in order.

C Using the line plot, find the median, mode, and range. The median is 24, the mode is 4 and the range is 40.

1 POINT

INCORRECT LINE PLOT; CORRECT EXPLANATION; INCORRECT MEDIAN, MODE AND RANGE
PART A INCORRECT AND PART C CORRECT; PART B INCORRECT

Directions: Solve the problem below. There may be more than one way to answer correctly. Show as much of your work as possible.

---

2 The sixth grade students were given different types of bean seeds to plant as a science experiment. The table shows the height of the beanstalks after two weeks.

Name	Height in cm
Jessica	28
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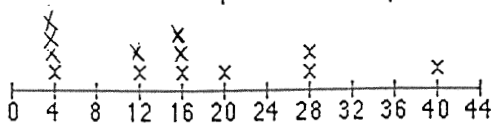
Cliff	4
Yassir	4
Cassandra	16
Nicole	4
Mike	32
Irum	16
Alan	12

4
4
4
4
12
12
16
16
16
20
28
28
40

A Use the table to complete the line plot.



Height of Beanstalks in Centimeters

x = 1 student

B Explain why it is easier to use the line plot to find the median, mode, and range, than it is to use the table. It is easier to use because the numbers are in order from least to greatest and not out of order.

C Using the line plot, find the median, mode, and range.

Median
~~20 24~~
16

mode
4

range
40 − 4 = 36

36

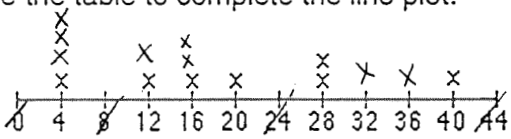
2 POINTS
INCORRECT LINE PLOT; CORRECT EXPLANATION; CORRECT MEDIAN, MODE AND RANGE
PART A INCORRECT AND PART C CORRECT; PART B CORRECT

Directions: Solve the problem below. There may be more than one way to answer correctly. Show as much of your work as possible.

2 The sixth grade students were given different types of bean seeds to plant as a science experiment. The table shows the height of the beanstalks after two weeks.

Name	Height in cm
Jessica	~~28~~
Dwain	~~40~~
Melissa	~~28~~
Karen	~~16~~
Rick	~~20~~
John	~~12~~
Kurt	~~4~~
Linda	~~36~~
Cliff	~~4~~
Yassir	~~4~~
Cassandra	16
Nicole	~~4~~
Mike	~~32~~
Irum	~~16~~
Alan	12

A Use the table to complete the line plot.



Height of Beanstalks in Centimeters

x = 1 student

B Explain why it is easier to use the line plot to find the median, mode, and range, than it is to use the table. It is easier to find the median, mode, and range, on a line plot because the numbers are in order already and the number of alike numbers are given.

C Using the line plot, find the median, mode, and range.

The median is 20 and 28. The mode is 4. The range is 36.

2 POINTS
CORRECT LINE PLOT AND CORRECT EXPLANATION; INCORRECT MEDIAN, MODE AND RANGE
PARTS A CORRECT AND PART C INCORRECT; PART B CORRECT

Directions: Solve the problem below. There may be more than one way to answer correctly. Show as much of your work as possible.

2 The sixth grade students were given different types of bean seeds to plant as a science experiment. The table shows the height of the beanstalks after two weeks.

Name	Height in cm
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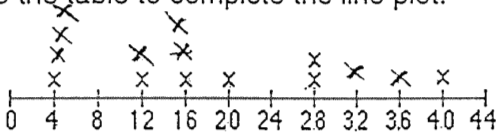
John	12
Kurt	4
Linda	36
Cliff	4
Yassir	4
Cassandra	16
Nicole	4
Mike	32
Irum	16
Alan	12

A Use the table to complete the line plot.



Height of Beanstalks in Centimeters

x = 1 student

B Explain why it is easier to use the line plot to find the median, mode, and range, than it is to use the table. BECAUSE the number are in order, it tells how MANY people's plants grew the SAME in centimeter, and it also tells the highest and the lowest numbers without having to search them out.

C Using the line plot, find the median, mode, and range.

The median is 16
The mode is 40
The range is 36

3 POINTS
CORRECT LINE PLOT; CORRECT EXPLANATION; CORRECT MEDIAN, MODE AND RANGE
ALL 3 PARTS CORRECT